

WHAT WE CLAIM IS:

1. A magnetic position device for using in a driver, comprising:
  - a movable element having a first yoke assembly; and
  - a fixed element adjacent to said movable element for generating a
- 5 magnetic field to control said movable element to be moved toward a predetermined position.
2. The magnetic position device according to Claim 1, wherein said fixed element comprises:
  - a second yoke assembly;
- 10 a magnet assembly connected to said second yoke assembly for generating said magnetic field;
  - a first coil for generating a first motive force in a first direction in response to the magnetic flux of said magnetic field; and
  - a second coil for generating a second motive force in a second
- 15 direction in response to the magnetic flux of said magnetic field.
3. The magnetic position device according to Claim 2, wherein said second coil is perpendicular to said first coil.
4. The magnetic position device according to Claim 2, wherein said second direction is perpendicular to said first direction.
- 20 5. The magnetic position device according to Claim 2, wherein said first coil and said second coil are winded around said second yoke assembly.
6. The magnetic position device according to Claim 2, wherein said magnet assembly comprises a plurality of permanent magnets.
7. The magnetic position device according to Claim 2, wherein said
- 25 movable element is capable of being moved along said first direction by said first motive force acted on said first yoke assembly.

8. The magnetic position device according to Claim 7, wherein said movable element is capable of being moved along said second direction by said second motive force acted on said first yoke assembly.
9. The magnetic position device according to Claim 8, wherein said first  
5 coil is a tracking coil.
10. The magnetic position device according to Claim 9, wherein said second coil is a focusing coil.
11. The magnetic position device according to Claim 1, wherein said first yoke assembly comprises two yokes being mounted on two  
10 opposite sides of said movable element, respectively.
12. The magnetic position device according to Claim 1, wherein said driver is a read/write head of an optical read device.
13. The magnetic position device according to Claim 12, wherein said movable comprises an optical lens
- 15 14. A magnetic position device for using in a driver, comprising:  
a movable element having a first yoke assembly; and  
a fixed element adjacent to said movable element for generating a magnetic field and having a coil assembly, wherein said coil assembly generates a motive force in response to the magnetic flux of said  
20 magnetic field to control said movable element to moved toward a predetermined position.
15. The magnetic position device according to Claim 14, wherein said coil assembly comprises a focusing coil and a tracking coil.
16. The magnetic position device according to Claim 14, wherein said  
25 fixed element further comprises a second yoke assembly and a magnet assembly connected with said second yoke to generate said magnetic field.

17. A position device capable of controlling the position of an optical lens for using in a driver, comprising:

a movable element having a first yoke assembly; and

5 a fixed element adjacent to said movable element for generating a magnetic field and having a coil assembly, wherein said coil assembly generates a motive force in response to the magnetic flux of said magnetic field, thereby controlling said optical lens to moved toward a predetermined position.

10 18. The position device according to Claim 17, wherein said optical lens is mounted in said movable element.

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